WSDM Project
Shopping cart

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HELLO!

We are Group 1

We are here to present you our project for the course Web-scale data management.

Technologies used

docker

Flask
web development,
one drop at a time

mongoDB.

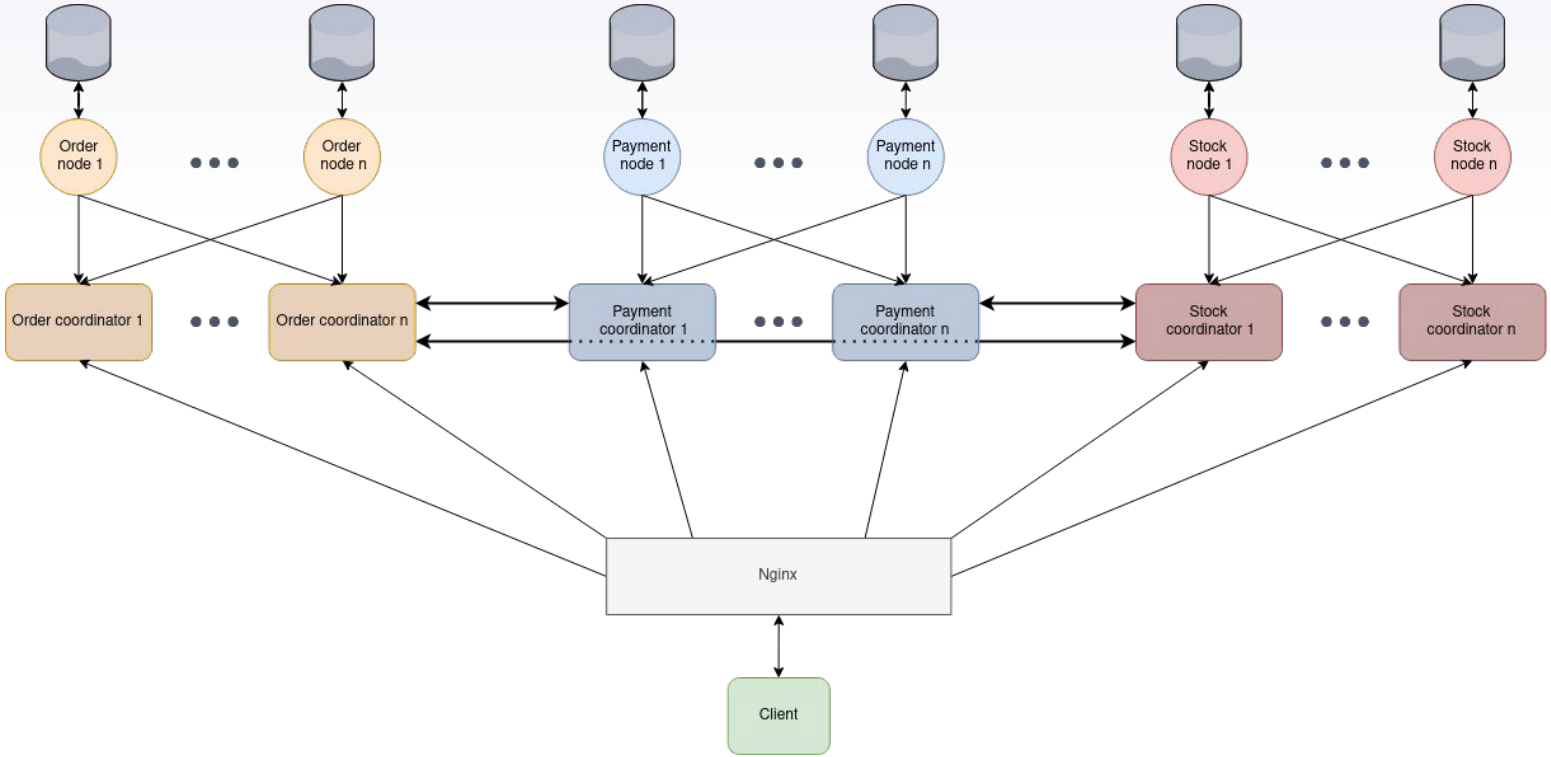
kubernetes

python™

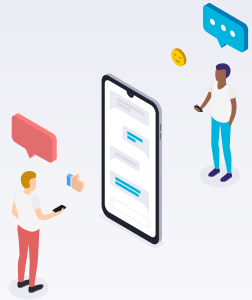
NGINX

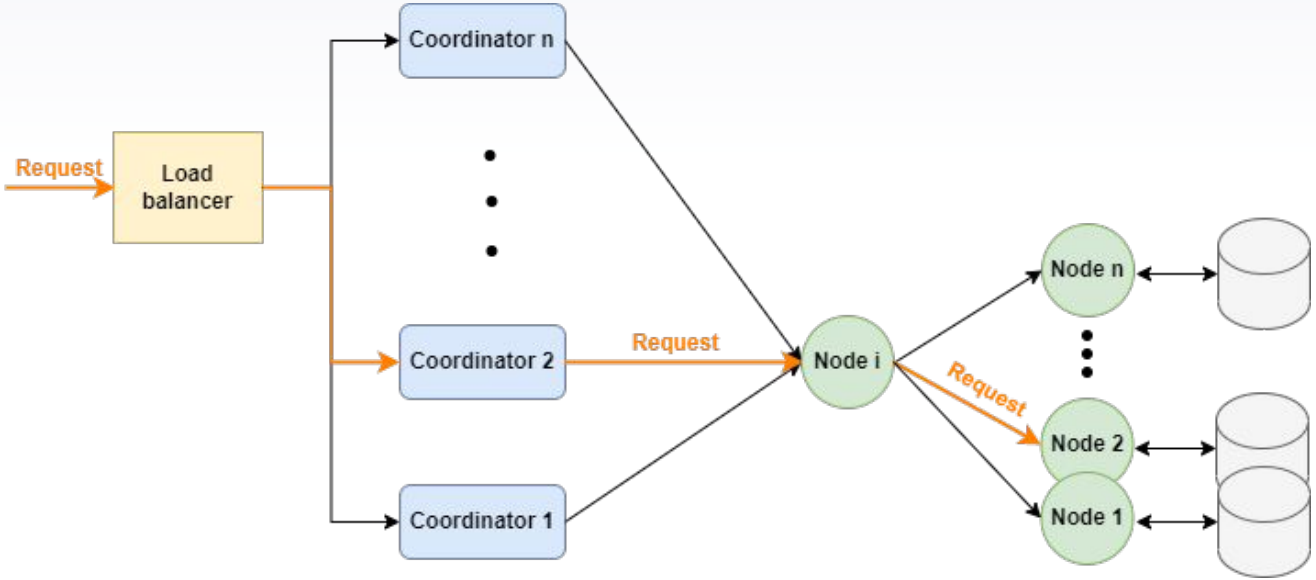
LOCUST

Design Architecture & Scalability

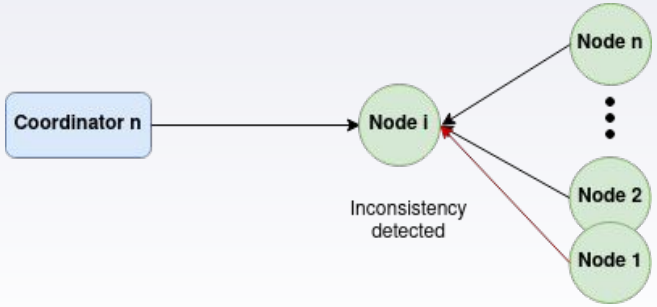


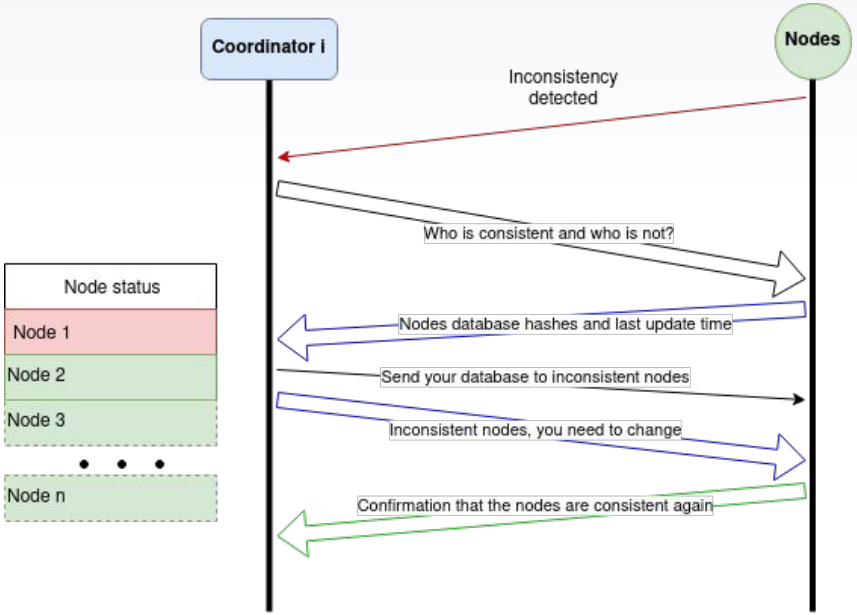
Messaging



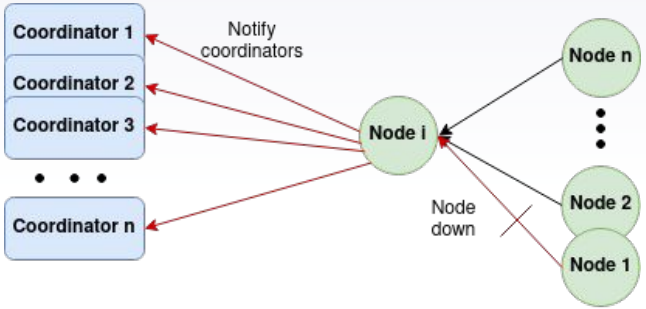

Request
Load balancer
Coordinator n
Coordinator 2
Coordinator 1
Request
Node i
Request
Node n
Node 2
Node 1

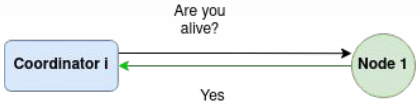
Consistency

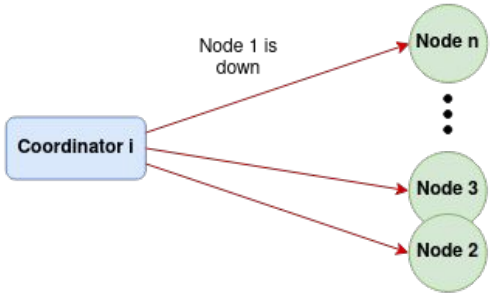


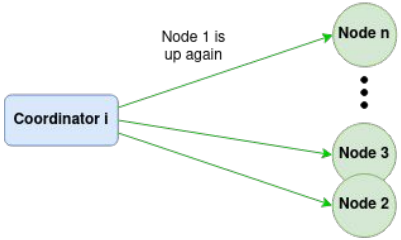


Fault Tolerance









Our results

Using 3 nodes and 2 coordinators per service:

100 users
- No failures
- Average response time 2737 ms

1000 users
- Fail rate: 24%
- Average response time 12193 ms

Using 1 node and 1 coordinator per service:

1000 users
- Fail rate: 40%
- Average response time 6400 ms

Service actually **crashes**.

Consistency:

Stock service inconsistencies in the logs: -100

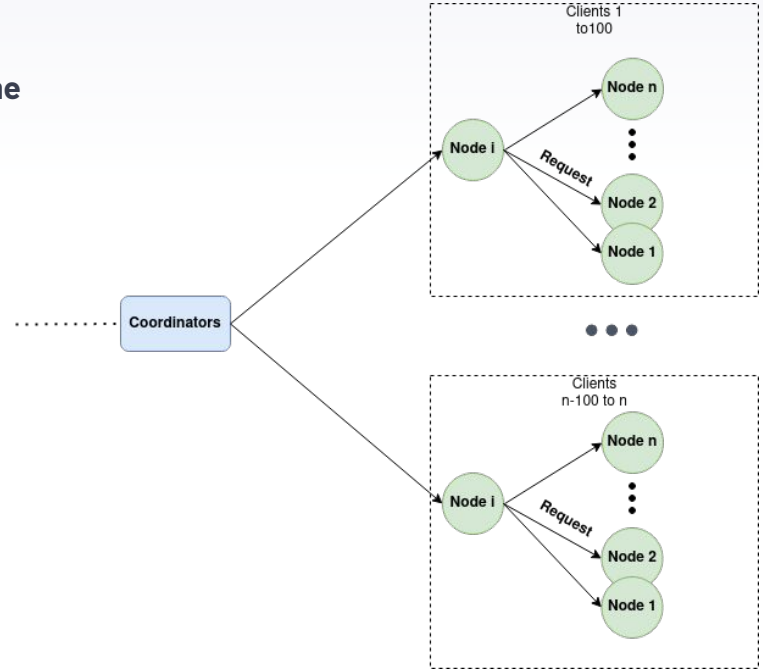
Stock service inconsistencies in the database: -100

Payment service inconsistencies in the logs: 100

Payment service inconsistencies in the database: 900.0

Proposal for the future

+ **Increase scalability**
+ **Ensure consistency**
+ **Reduce response time**



THANK YOU!

Any questions?